

Geometry
Chapter 3 Review

Name: _____
Date: _____ Block: _____

True/False:

Determine if each statement is true or false using the figure below.

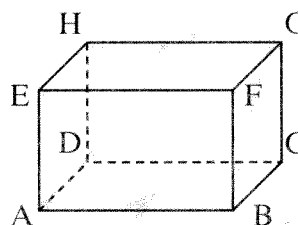
T 1. $\overline{EA} \parallel \overline{CG}$

F 2. \overline{HG} and \overline{AB} are skew lines

F 3. plane AED is parallel to plane EFG

F 4. $\overline{HD} \parallel \overline{GF}$

T 5. \overline{DA} and \overline{GC} are skew lines

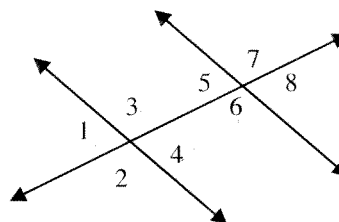


Multiple choice:

Choose the best answer for the following.

1. Which angles are corresponding?

- a. $\angle 1$ and $\angle 5$
- b. $\angle 4$ and $\angle 6$
- c. $\angle 3$ and $\angle 6$
- d. $\angle 1$ and $\angle 8$

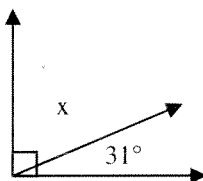


2. Which angles are alternate interior?

- a. $\angle 2$ and $\angle 8$
- b. $\angle 2$ and $\angle 7$
- c. $\angle 1$ and $\angle 5$
- d. $\angle 3$ and $\angle 6$

3. Find the value of x.

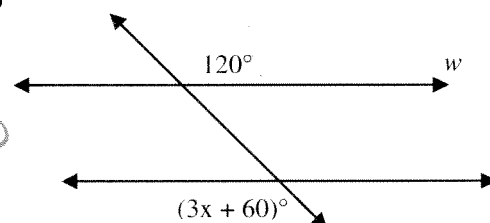
- a. 59
- b. 90
- c. 45
- d. 31



4. What value of x would make lines w and y parallel?

- a. 20
- b. 30
- c. 40
- d. 60

$3x + 60 = 120$
 $x = 20$
alt ext.



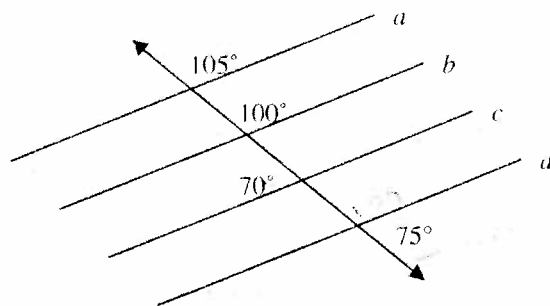
5. Determine which lines must be parallel.

a. $a \parallel b$

b. $a \parallel d$

c. $c \parallel d$

d. $a \parallel c$



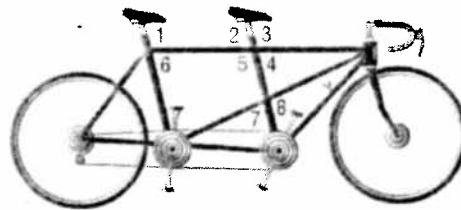
6. The quality control manager for a bicycle manufacturer wants to make sure that the two seat posts for a tandem bicycle are parallel. Which angles can she measure to determine this?

a. $\angle 2$ and $\angle 3$

b. $\angle 1$ and $\angle 3$

c. $\angle 4$ and $\angle 8$

d. $\angle 5$ and $\angle 7$



7. Find the slope of the line that passes through (5, 2) and (8, -1).

a. 1

b. $\frac{1}{3}$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-3}{3}$

c. -1

d. $-\frac{1}{3}$

8. What is the slope of the line that is parallel to the line that passes through the points A(2, 4) and B(-6, 3)?

a. 8

b. $\frac{1}{8}$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-1}{-8}$

c. -8

d. $-\frac{1}{8}$

9. What is the slope of the line perpendicular to the line passing through the points C(7, -3) and D(9, -5)?

a. -4

b. $\frac{1}{4}$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-2}{2} = -1$

c. 4

d. $-\frac{1}{4}$

10. Which is the slope of a line perpendicular to the line $y = -2x + 6$?

a. 2

b. $\frac{1}{2}$

c. -6

d. $-\frac{1}{2}$

11. Which equation represents a line that is perpendicular to $y = -\frac{2}{5}x + \frac{1}{3}$?

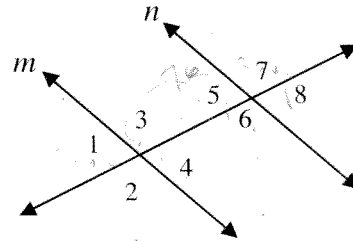
a. $y = \frac{2}{5}x + 3$

b. $y = \frac{5}{2}x + 2$

c. $y = -\frac{5}{2}x + 2$

d. $y = 3x + 3$

Given $m \parallel n$. Use the figure to answer 17 – 20.



12. If $m\angle 1 = 76^\circ$, then $m\angle 7 = \underline{104^\circ}$

13. If $m\angle 6 = 103^\circ$, then $m\angle 3 = \underline{103^\circ}$

14. If $m\angle 2 = 38^\circ$, then $m\angle 7 = \underline{38^\circ}$

15. If $m\angle 4 = 44^\circ$, then $m\angle 6 = \underline{136^\circ}$

Converse

Given the following information, determine which lines, if any, would be parallel and tell why?

16. $\angle 3 \cong \angle 8$

Lines? a || b

Why? alt int \angle s Converse

17. $\angle 5 \cong \angle 2$

Lines? c || d

Why? corresp \angle s Converse

18. $\angle 1 \cong \angle 6$

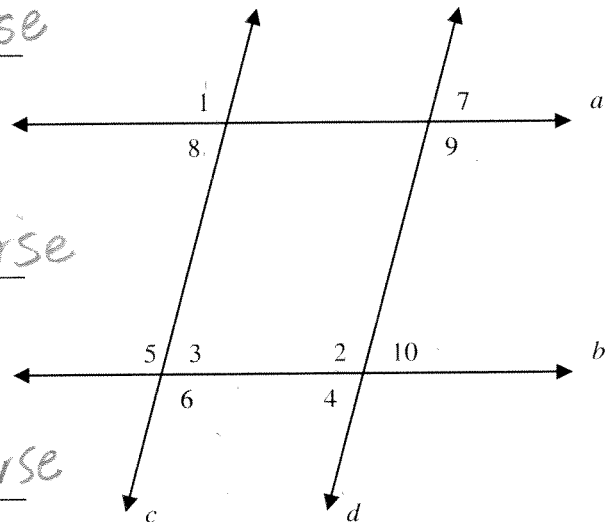
Lines? a || b

Why? alt ext \angle s Converse

19. $\angle 9$ and $\angle 10$ are supplementary

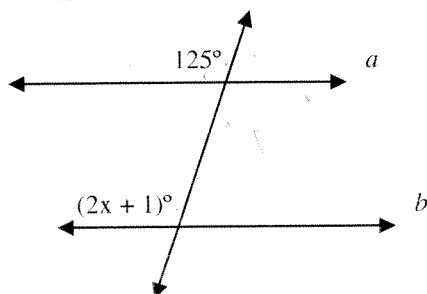
Lines? a || b

Why? Consec int \angle s Converse



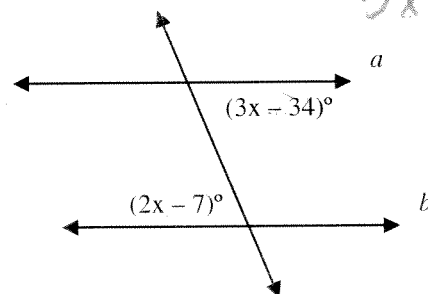
Solve for x and/or y to make $a \parallel b$.

20. $x = \underline{62}$



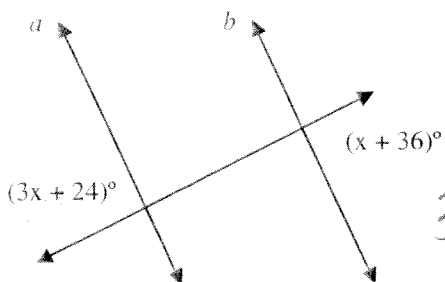
$2x + 1 = 125$
 $2x = 124$
 $x = 62$

26. $x = \underline{27}$



$3x - 34 = 2x - 7$
 $x = 27$

27. $x = \underline{6}$

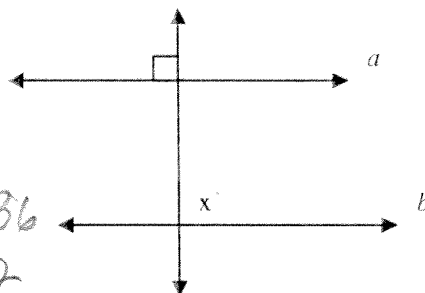


$$3x + 24 = x + 36$$

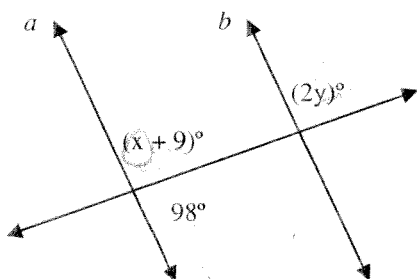
$$2x = 12$$

$$x = 6$$

28. $x = \underline{90^\circ}$



29. $x = \underline{73}$; $y = \underline{41}$



$$2y = 82$$

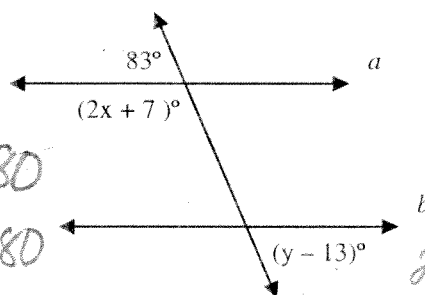
$$y = 41$$

$$x + 9 + 98 = 180$$

$$x + 107 = 180$$

$$x = 73$$

30. $x = \underline{45}$; $y = \underline{96}$



$$y - 13 = 83$$

$$y = 96$$

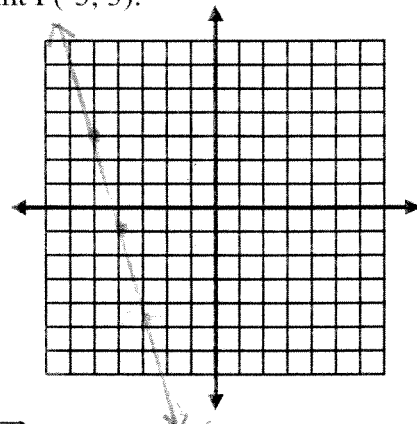
$$2x + 7 + 83 = 180$$

$$2x + 90 = 180$$

$$2x = 90$$

$$x = 45$$

31. Graph the line with a slope of -4 and passing through the point P(-5, 3).



32. Graph the line that passes through (1, -3) and is parallel to \overline{AB} which contains points A(3, -1) and B(1, 5).

$$(3, -1) \quad (1, 5)$$

$$\frac{6}{-2} = -3$$

